REPLY BRIEF FOR APPELLANT

IN RE LAVAUGHN F. WATTS, JR.

United States Court of Appeals

For the Federal Circuit

03-1121

(Serial no. 08/568,904)

IN RE LAVAUGHN F. WATTS, JR.

APPEAL FROM A DECISION OF THE BOARD OF PATENT APPEALS AND INTERFERENCES DATED AUGUST 30, 2003

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OBJECTION TO APPELLEE'S RULE 47.5 STATEMENT OF RELATED CASES

Appellant objects to Appellee's argument that, "judicial economy" will be served by assigning 03-1121 and 03-1122 to the same judicial panel. While Appellee has provided a list of what Appellee considers to be commonalities between the two cases, Appellee fails to provide a list of the

differences between the two cases, which argue against "judicial economy". More particularly, Appellee fails to state:

14. that though the application in the subject appeal and the application in co-pending appeal 03-1122 are continuations-in-part of the same parent application, the additional subject matter added to each application is different and drawings are different;

15. no claim in either appeal is readable on the parent application;

16. that though counsel of record are the same, the same counsel has been the principal preparer of the briefs for appellant and that same counsel will provide the oral argument for appellant while it is the belief of the undersigned from conversations with counsel for appellee that different counsel are principally involved in each of the appeals for appellee and different counsel will present the arguments for appellee, thereby placing counsel for appellant at a disadvantage should both appeals be heard concurrently;

17. that all of the cited references bear a filing date subsequent to the filing date of the parent applications Serial Nos. 08/023,831 and 07/429,270, making it clear that the subject matter of the parent applications is not being claimed per se and that, while there is a common reference (Kikinis), this is a secondary reference, the primary reference in each appeal are different;

18. the issues on appeal are different.

Accordingly, for the above reasons, Appellant submits that there is no judicial economy in assigning both cases to the same panel. Indeed, Appellant could be prejudiced were both appeals to be heard concurrently due to confusion related to the references, claims and issues on appeal.

REPLY ARGUMENT

Introductory and by way of recapitulation, the invention, on a macro basis, involves monitored measurement of the temperature of the CPU or some other portion of the apparatus (with one embodiment further including prediction of future temperature levels) with the clock being turned off (or slowed) to the CPU when the temperature rises to or above a selected reference level except when critical I/O is being processed (different claims covering different ones of these combinations). A significant advantage of the critical I/O exception is that it enables the system to continue to process data under overheat conditions during which a slow down or shut down of the CPU would be unacceptable to the user of the apparatus. None of the cited references teaches or even suggests the problem involved, let alone the solution thereto. As the predecessor of this Court stated in In re Sponnoble, 56 CCPA 823, 405 F.2d 578, 585, 160 USPQ 237,243 (CCPA 1969), "[A] patentable invention may be in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified". As is demonstrated in the Brief for Appellant as well as herein below, not only is the problem itself not mentioned in the prior art, a fact which alone should be dispositive of this appeal, but, in addition, the

solution to the problem is also not obvious, contrary to the allegations in the Brief for Appellee.

1) THE PTO BEARS THE BURDEN OF ESTABLISHING A PRIMA FACIE CASE OF OBVIOUSNESS.

In proceedings before the Patent and Trademark Office, "the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art". In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (citing In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). "The Examiner can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references", In re Fritch, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)(citing In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)(citing In re Lalu, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)). The Examiner has not met this burden in the present case. The Examiner has not provided any evidence of knowledge generally available to one of ordinary skill in the art at the time of the invention that would lead that individual to combine the relevant

teachings of the Kikinis, Hollowell and Gephardt references. Moreover, even if there were such teaching, the Examiner provides no teaching or suggestion, without the improper hindsight provided by Appellant's disclosure, for the additional modifications that would be required by any combination device in order for it to be able to obviate the claimed invention.

Even if the cited art were to disclose components of the device in issue, case law holds that it is insufficient that the prior art disclose the components of the device in issue, either separately or used in other combination; there must be some teaching, suggestion, or incentive to make the combination made by the inventor. Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990). Moreover, "obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined ONLY if there is some suggestion or incentive to do so." ACS Hosp. Systems, Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Examiner in the present case has not provided any teaching or suggestion from the art supporting the

combination as a solution to the problem stated above, let alone the solution thereto.

Moreover, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Laskowski, 871 F.2d 115, 10 USPQ2d 1397 (Fed. Cir. 1989); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Further, it is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Gorman, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed.Cir.1991). See also Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed.Cir.1985).

Moreover, "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). Appellant respectfully submits that arguments in his Brief for Appellant and arguments submitted herein in this Reply Brief for Appellant

show that the prior art does not teach or suggest the modifications necessary to attain Appellant's claimed invention.

2) **NOTHING IN APPELLEE'S BRIEF CHANGES THE FACT THAT THE BOARD IGNORED A CRUCIAL TEACHING IN GEPHARDT THAT PROVES ANY COMBINATION OF GEPHARDT WITH HOLLOWELL AND KIKINIS DOES NOT OBVIATE CLAIMS 5, 6, AND THROUGH CLAIM DEPENDENCY, CLAIMS 2, 3, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 AND 71-73, UNDER 35 U.S.C. § 103.**

The Board specifically determined:

> The **primary activities of Gephardt** clearly correspond to the **critical activity of the claimed invention.** (A8, lines 6-8).

Accordingly, the Board determined: (Gephardt's) primary activities = critical activity (Appellant's). Further, since (Gephardt's) secondary activities ≠ primary activities (Gephardt's), the only possible conclusion is that (Gephardt's) secondary activities = non-critical I/O (Appellant's).

The Board further determined:

> Gephardt discloses that **primary activities (i.e., "critical" activities) cause the computer to enter the ready state regardless of its current state.** Therefore, **the computer cannot be shut down when a primary activity is occurring.** (A8, lines 8-11).

It is initially noted that Gephardt has nothing whatsoever to do with power management under over temperature conditions and is solely concerned with power management per se. Accordingly, the power management of Gephardt is not concerned with operation in over temperature conditions. Furthermore, Appellant respectfully points out that Gephardt teaches that its secondary activities (i.e., "non-critical" activities), as with its primary activities (i.e., "critical" activities), cause the computer to enter the ready state and process at full clock rate. Gephardt specifically points out that "primary activity" is processed at full clock speed (A316, col. 7, lines 49-56). Gephardt similarly points out that "secondary activity" is processed at full clock speed (A316, col. 8, lines 40-52) as opposed to reducing speed or stopping the clock signals to the CPU as claimed. The **only significant difference in the way Gephardt treats "primary" and "secondary" activity is in the amount of time the system takes to return to doze state 602 or stand-by state 604.** In the case of "primary" activity, the system must repeat the various waiting cycles (A316, col. 7, line 61 – col. 8, line 28), whereas in the case of "secondary" activity, the system returns to the previous state following a predetermined amount of time (e.g., it does not have to repeat the various waiting cycles).

In light of the above teaching of Gephardt, that its primary (i.e., "critical") activities and secondary (i.e., "non-critical activities") are processed at full clock speed, Gephardt fails to teach or suggest any scenario in which its secondary activities (i.e., "non-critical" activities) would NOT be processed at full clock speed or stopped when detected temperature is above a selected reference temperature. Simply put, Gephardt will process both its primary ("critical") activities and secondary ("non-critical") activities at full CPU speed regardless of temperature. Moreover, Gephardt fails to teach or suggest that I/O data can be categorized as anything other than as "primary" or "secondary" activity.

It is important to note that, no matter what systems were identified in Gephardt's prior art section, Gephardt decided to differentiate his invention by saving power solely by controlling the amount of time it takes a CPU to return to sleep mode AFTER the primary ("critical") or secondary ("non-critical") activity are processed – NOT by controlling the speed of the CPU WHILE secondary ("non-critical") activity is being processed. Furthermore, Gephardt has nothing whatsoever to do with the problem of the subject application or its solution as noted in the introductory paragraph above.

As a result, Gephardt fails to teach or suggest the limitation, "a clock manager adapted to receive a control signal from said monitor, said clock manager **selectively stopping clock signals from being sent to said central processing unit (CPU) when** said monitored temperature rises to a level at and above a selected reference temperature level and said CPU **is not processing critical I/O**", in independent Claim 5, or "a clock manager coupled to a monitor that monitors temperature within said apparatus, **said clock manager designating that said central processing unit (CPU) receives** said first clock signal when said monitored temperature is at a level below a selected reference temperature level and receives **said second clock signal when said detected temperature is at a level at and above said selected referenced temperature level AND said CPU is not processing critical I/O**", as required by independent Claim 6 or "a clock manager adapted to receive a control signal from said monitor, said clock manager **reducing central processing unit (CPU) clock speed when** a detected temperature level is at and above a selected reference temperature level **and said CPU is not processing critical I/O**", as required by independent Claim 9, since BOTH critical and non-critical I/O in Gephardt will be processed at full clock rate even when the temperature is above a selected reference.

To document support for his above argument, Appellant identifies specific teachings in Gephardt, as follows. Gephardt teaches:

> Specifically, power management state machine 260 includes a ready state 600, a doze state 602, a stand-by state 604, a suspend state 606, a transitory state 608. **During ready state 600, computer system 200 is considered full-on; that is, all components of the computer system 200 are clocked at full speed and are powered-on.** The power management state machine 260 enters the ready state 600 upon power-up of the computer system and upon reset. The **power management state machine 600 also enters the ready state 200 when a primary system activity is detected** or when an internal state register (not shown) of configuration registers unit 270 is written with a "ready state" value via software writing through external bus 206. The classification of certain activities as "primary" activities is described further below (A316, col. 7, lines 46-60).

Gephardt thus teaches that there are five states: ready state 600, doze state 602, stand-by state 604, suspend state 606 and transitory state 608. Gephardt further teaches that when a "primary system activity" is detected, ready state 600 is entered and all components of the computer system 200 are clocked at full speed and powered-on. Gephardt further teaches:

> Power management **state machine 260 transitions from the ready state 600 to the doze state 602 if a primary activity is not detected during the entire duration of a first time-out period (0.125 seconds to 16 seconds) as determined by a first time-out counter within time-out counters unit 268.** The power management state machine 260 can alternatively enter

> doze state 602 via software writing of a "doze state" value into the state register of configuration registers unit 270. **During doze state 602, clock control unit 264 controls clock generator 230 such that the CPU clock signal is slowed down to a preprogrammed frequency**. It is noted that during doze state 602, the system clock signal continues to be driven at its maximum relative frequency, and all components are powered-on (A316, col. 7, line 61 – col. 8, line 7).

Gephardt therefore teaches that if no primary activity is detected during the ENTIRE duration of a first time-out period (0.125 seconds to 16 seconds), state machine 260 transitions from the ready state to the doze state 602, during which the CPU clock is slowed down to a preprogrammed frequency by clock control unit 264. Gephardt goes on to teach:

> The power management **state machine 260 transitions from the doze state 602 to the stand-by state 604 if the system is idle for the entire duration of a second time-out period (1 minute to 16 minutes) without any primary activities occurring, as determined by a second time-out counter within time-out counters unit 268**. The power management state machine 260 can alternatively enter the stand-by state 604 via software writing to the state register of configuration registers unit 270. During the stand-by state 604, power control unit 266 may cause the power to be removed from selected circuits portions, such as peripheral device 204. In addition, **during stand-by state 604, clock control unit 264 causes the clock generator 230 to turn-off the CPU clock signal**. The system clock signal continues to be driven at its maximum relative frequency (A316, col. 8, lines 8-22).

Gephardt thus teaches that if no primary activity is detected during the ENTIRE duration of a SECOND time-out period (1 minute to 16 minutes), state machine 260 transitions from the doze state 602 to the stand-by 604, during which the CPU clock is turned-off by clock generator 230. Gephardt further teaches:

> The power management **state machine 260 transitions to the suspend state 606 from the stand-by state 604 if the system is idle for the entire duration of a third time-out period (5 minutes to 60 minutes) without any primary activities occurring**, as determined by a third time-out counter within time-out counters unit 268. Power management state machine 260 may alternatively enter the suspend state via software writing of a "suspend state" value into the state register of configuration registers unit 270. **When power management state machine 260 is in the suspend state 606**, power control unit 266 may cause the power to be removed from selected circuit portion, such as peripheral device 244, and **clock control unit 264 causes clock generator 230 to stop both the CPU clock signal and the system clock signal.** Depending upon the system, the power control unit 252 may further cause power to be removed from additional circuit portions (A316, col. 8, lines 23-39).

Gephardt thus teaches that if no primary activity is detected during the ENTIRE duration of a THIRD time-out period (5 minutes to 60 minutes), state machine 260 transitions from the stand-by state 604 to the suspend state 606, during which both the CPU clock and the system clock are stopped. Gephardt goes on, however, to teach:

> Power management **state machine 260 enters the transitory state 608 from either the doze state 602 or stand-by state 604 if a secondary activity is detected,** as will be described in greater detail below. Depending upon the detected secondary activity, the power management state machine 260 remains in the transitory state 608 for a predetermined time following detection of the secondary activity or for a pre determined amount of time following completion of the secondary activity. **During transitory state 608, power management state machine 260 causes clock control unit 264 to control clock generator such that the CPU clock signal and the system clock signal are driven at their MAXIMUM RELATIVE FREQUENCIES.** Power is further applied to all circuit portions. **Following the predetermined amount of time, power management state machine 260 reverts back to the previous state** (i.e., doze state 602 or stand-by state 604)(A316, col. 8, lines 44-55).

Gephardt therefore teaches that if "secondary activity" is detected during doze state 602 or stand-by state 604, state machine 260 enters transitory state 608 during which the CPU clock signal and the system clock signal are DRIVEN AT THEIR MAXIMUM RELATIVE FREQUENCIES. The only significant difference in the way Gephardt's system handles "primary" and "secondary" activities is the amount of time the system takes to return to the previous doze state or stand-by state. In the case of a "primary" activity, Gephardt's state machine 260 will again wait for the entire duration of a first time-out period (0.125 seconds to 16 seconds), before transitioning to the doze state. If previously in a stand-by state, in addition to waiting for a first time-out period, Gephardt will additionally

wait for the entire duration of a second time-out period (1 minute to 16 minutes). In contrast, in the case of a "secondary" activity, Gephardt's system will revert back to the previous state (i.e., doze state 602 or stand-by state 604) following the predetermined amount of time.

Assuming that Gephardt's "primary activities" are considered the equivalent of Appellant's "critical" activities and Gephardt's "secondary activities" are considered the equivalent of Appellant's "non-critical" activities, Gephardt makes it very clear that both "primary" and "secondary" activities are processed at full clock speed. Further, there is no teaching in Gephardt that the CPU clock speed can be slowed or stopped while processing "secondary activity". Accordingly, the Board committed error in its determination of the teaching of Gephardt and in combining it with Hollowell and Kikinis and determining that the combination of the three references teaches all the limitations of Claims 5, 6 and 9, since BOTH critical and non-critical activities in Gephardt will be processed at full clock under any condition.

3) **THE SOLICITOR'S STATEMENT THAT, "EACH AND EVERY ELEMENT OF CLAIM 5 IS FOUND IN THE**

PRIOR ART, A FACT THAT WATTS DID NOT DISPUTE IN HIS OPENING BRIEF" IS ERRONEOUS AND NOT SUPPORTED BY THE RECORD ON APPEAL.

There is no support in the record for the Solicitor's statement that, "Each and every element of claim 5 is found in the prior art, a fact that **Watts did not dispute before the Board and does not dispute in his opening brief**" (Appellee Brief, page 16, lines 2-3).

A close reading of the record on appeal clearly shows that Watts exhaustively challenged the purported teaching of Gephardt and its applicability to the last paragraph of Claim 5 (Board Brief, page 9, line 12 – page 10, line 7; Reply Brief, page 12, line 14 – page 2, line 8 & line 24 – page 3, line 20; Appellant's Brief, page 37, line 3 – page 38, line 12 & page 41, line 10 – page 47, line 3). Accordingly, the Solicitor's statement is contrary to fact.

4) **SUBSTANTIAL EVIDENCE DOES NOT SUPPORT THE SOLICITOR'S CHART ON PAGES 17-18 OF APPELLEE'S BRIEF.**

The chart provided by the Solicitor was not before the Examiner or the Board. Accordingly, there is no evidence from the record on appeal that the analysis provided by the Solicitor is correct. Indeed, Appellant particularly takes issue with the portion of "The Prior Art Teaching" opposite "said CPU is not processing critical I/O" listed under "Representative Claim 5". Appellant's arguments against such arguments are addressed in #2 above.

5) **THE DEFINITION OF "CRITICAL I/O" PROVIDED BY THE SOLICITOR WAS NOT CONSIDERED BY THE EXAMINER OR BOARD; IS AN INAPPROPRIATE ATTEMPT TO RAISE AN ISSUE THAT WAS NOT OF CONCERN TO THE EXAMINER OR BOARD; AND IS TECHNICALLY INCORRECT.**

In a direct appeal, the Federal Circuit reviews the PTO Board decision "on the record before the Patent and Trademark Office." 35 U.S.C. 144; In re Varga, 511 F.2d 1175, 1178, 185 USPQ 47 (CCPA 1975). The court will not consider evidence submitted in counsel's briefs. In re Margolis, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); Titanium Metals Corp. v. Banner, 778 F.2d 775, 779-80, 227 USPQ 773, 777 (Fed. Cir. 1985) (Solicitor's new theory for interpreting a reference so as to support an

anticipation rejection "was clearly beyond his province and we disregard it as amounting to a new ground of rejection"); In re Zahn, 617 F.2d 261, 269, 204 USPQ 988, 966 (CCPA 1980)("we are a court of review and do not pass on issues not raised").

Neither the Board nor the Examiner raised a definiteness or definition issue with the term "critical I/O". Each had the opportunity to raise such objections but chose not to. Apparently the Examiner and Board considered the term to be straightforward and understandable, either from the definition in the specification or, if not specifically defined in the specification, then the common and ordinary definition(s) of the terms – at least enough so as to not raise any definiteness rejection(s).

Despite the fact that neither the Board nor the Examiner set forth their interpretation of the term "critical I/O", now comes the Solicitor presenting a definition that "critical I/O" = "activities during which it would be undesirable to stop or slow the CPU clock" (Appellee's Brief, page 22, lines 14-15). As such, Appellant objects to the definition provided by the Solicitor as not being timely or properly before this Court. For this reason alone, the argument should not be considered.

Nevertheless, and solely in the event this Court decides to address the issue, Appellant respectfully responds with the following argument.

a. The Solicitor supplies an overly broad definition to the term "I/O" in Claim 5. The Solicitor's appears to define "I/O" as being "any and all activity" in the CPU. But one having ordinary skill in the art realizes that the term "I/O" has a more limited meaning. Accordingly, Appellant submits two dictionary definitions of "input/output" from respected technical dictionaries:

> The medium or device used to insert information, data, or instructions into a computing system or the medium or device used to transfer information or data, usually processed data, **from a computing system to the "outside" world**. Examples of input-output media or devices are paper tape, magnetic tape, punched cards, printers, plotters illuminated panels, typewriters, cathode-ray display tubes and character sensing devices. Thus, input-out may be the media or data-carrier handling devices, the data-carrier itself, **or the data itself**. Input-output permits a computer to communicate with humans or other machines. Abbreviated I/O. Standard Dictionary of Computers and Information Processing, revised second edition (1977)(ADDENDUM-3).

> In computing, a general term for the equipment used to communicate with a computer and **the data involved in the communication**. Synonymous with I/O. Dictionary of Information Technology, (1982)(ADDENDUM-6).

As a result, "I/O" is data to be processed (or is being processed) that is received from outside the apparatus. Excluded by this definition is any data to be processed (or is being processed) that is resident on or received from INSIDE the apparatus. Accordingly, the Solicitor has committed error in improperly broadening the scope of the term "I/O" to apply to ALL activity with the CPU.

b. Similarly, the Solicitor supplies an overly broad definition for the term "critical" in claim 5. The Solicitor initially cites a dictionary definition of "critical" as being "indispensable, vital", but thereafter on his own redefines the term "critical" to mean "undesirable". The Solicitor provides his own definition since, according to the Solicitor, "it is difficult to see how playing a wave file could be considered "indispensable" or "essential".

Appellant respectfully responds that one having ordinary skill in the art would more likely understand "critical I/O", in the context of the claims, to mean "I/O which a user of the apparatus would find it unacceptable to have the processing of slowed or stopped", since there are some types of I/O that cannot be processed at a slower or selectively stopped speed without

creating significant problems for a user of the apparatus or computer. As an example, Appellant cited a "wave file being played" as being critical I/O. A wave file utilizes streaming video and/or audio while being processed (i.e., for listening to audio, such as a song, or for viewing a video clip). Interruptions (such as from the clock to the CPU being stopped or slowed) will have an immediate impact on the visual and/or audio presentation to a user of the apparatus – which is not acceptable. There are also other types of programs and/or data that, while being processed, cannot be stopped or slowed with out creating an abrupt change in quality or property of the program being processed. On the other hand, most general programs can be selectively slowed or stopped without any abrupt change in the quality or property of the result of the processing (i.e., no perceived degradation by a user of the apparatus). One example is an e-mail program that allows the user to read current e-mail while the program is uploading and downloading e-mail messages in the background. The user has no perception from what he sees on the screen that the clock to the processor has been selectively slowed or stopped. Accordingly, the Solicitor has committed error in improperly broadening the scope of the term "critical" to be "undesirable".

6) THE SOLICITOR'S ARGUMENT THAT THE LIMITATIONS OF CLAIM 17 ARE TAUGHT BY

HOLLOWELL, KIKINIS AND CHEN, AND RESULTING CHART ON PAGES 27-29 OF APPELLEE'S BRIEF ARE ERRONEOUS SINCE THE BOARD SPECIFICALLY DETERMINED THAT IN THE PROPOSED COMBINATION, HOLLOWELL AND KIKINIS'S ACTUAL TEMPERATURE MEASUREMENTS WERE REPLACED WITH CHEN'S PREDICTED TEMPERATURE.

The Board made the following determination:

> In our view, the question here is whether it would have been obvious to the artisan **to replace** the actual temperature measurements of Hollowell or Kikinis with predicted temperature measurements as taught by Chen (A10, lines 17-20).
>
> Appellant is correct that Chen does not directly measure temperature ... (A10, lines 20-21).

As determined by the Board, the resulting combination of Hollowell, Kikinis and Chen would result in an apparatus having no actual temperature measurement, relying instead solely on temperature prediction. In contrast, Claims 17 and 18 both require actual temperature measurement (i.e., means for sampling a temperature) and means for predicting temperature. Webster's II New Riverside University Dictionary (1984) defines the term "sample" as:

> 1. a. A part representative of a whole. B. An entity representative of a class: SPECIMEN. 2. Statistics. A set of elements drawn from and analyzed to estimate the characteristics of a population (APPELLANT'S BRIEF, ADDENDUM-3).

Moreover, Appellant's use of the term "sampling" in the specification

clearly implies an actual temperature measurement (A32, lines 3-12) – NOT an estimate of temperature. Accordingly, the combination of Hollowell, Kikinis and Chen, as defined by the Board, does not teach or suggest, "**means for sampling a temperature level** associated with the operation of a central processing unit within said computer", as required by Claim 17, or "**means for sampling a temperature level** associated with the operation of said computer", as required by Claim 18, or "**means for sampling a temperature level** within said apparatus", as required by Claim 21. Each of these claims requires both a means for sampling (i.e., measuring) temperature and a means for predicting temperature (such combination supported in the specification, A37, lines 5-6).

In light of the Board's interpretation of Chen, one having ordinary skill in the art would not have been motivated to combine the Hollowell, Kikinis and Chen references in any manner that would have obviated the invention of Claims 17, 18 and 21. Accordingly, the Board's determination that Claims 17, 18, 21 (and their dependent claims) are obvious under 35 U.S.C. 103(a) over Hollowell in view of Kikinis and Chen is erroneous and should be reversed.

7) THE MOTIVATION CITED BY THE SOLICITOR FOR COMBINING CHEN WITH KIKINIS AND HOLLOWELL ARGUES AGAINST ANY RESULTING COMBINATION HAVING BOTH ACTUAL TEMPERATURE MEASUREMENT AND TEMPERATURE ESTIMATION.

The Solicitor makes the following statement:

> Specifically, Chen teaches the benefits of predicting temperature (see, e.g., A324, col. 1, lines 30-33 (explaining the **cost savings associated with a thermal system that uses predicted temperature RATHER THAN actual temperature**)); and thus **itself provides the motivation to combine Chen with the Kikinis-Hollowell** combination to arrive at the computer system of Claim 17 (Appellee's Brief, page 30, lines 3-8).

A review of above-cited passage in Chen discloses that the cost savings are the result of not having an actual temperature sensor and corresponding circuitry. As a result, the Board's determination "**to replace** the actual temperature measurements of Hollowell or Kikinis with predicted temperature measurements as taught by Chen (A10, lines 17-20)", rather than to combine Chen's estimation with actual temperature measurement, is consistent with Chen's above teaching, since to combine the two would be more expensive than either and no reason was set forth in the prior art for any such combination.

Nevertheless, and notwithstanding the fact that: 1) the Board specifically stated, "In our view, the question here is whether it would have been obvious to the artisan **to REPLACE** the actual temperature measurements of Hollowell or Kikinis with predicted temperature measurements as taught by Chen" (A10, lines 17-20); and 2) that any combining of the actual temperature measurement of Hollowell-Kikinis with estimation of Chen DESTROYS the motivation (cost savings) cited by the Solicitor, the Solicitor goes on to make the following incredulous argument:

> Thus, the combination that was upheld by the Board did not "replace" the temperature measurement of Hollowell and Kikinis, but **rather included** Chen's use of predictions for automatic control in the Hollowell-Kikinis combination (Appellee's Brief, page 31, lines 3-6).

The Solicitor's determination above is not supported by the Board's analysis of Chen, Hollowell and Kikinis; it is not consistent with the motivation within Chen, and is not supported by any combination of the prior art. As such, the Solicitor's determination is nothing more than improper hindsight reconstruction.

8) **THE BOARD/EXAMINER/SOLICITOR HAVE EMASCULATED THE MEANING OF THE TERM "PREDICTING TEMPERATURE" IN CLAIM 17 (AND**

18 BY IMPLICATION) TO BE THE EQUIVALENT OF "ESTIMATING TEMPERATURE" IN CHEN.

Independent Claim 17 requires and positively recites, "means for **predicting temperature** levels associated with the operation of a central processing unit within said computer". Independent Claim 18 requires and positively recites, "means for **predicting temperature** levels associated with the operation of said computer".

Webster's II New Riverside University Dictionary (1984) defines the term "predict" as:

> To state, tell about or make known beforehand, esp. on the basis of special knowledge.
> To foretell what will happen: PROPHESY.
> *Core meaning*: to tell about or make known (future events) in advance, esp. by means of special knowledge or inference. (ADDENDUM-9).

Clearly the term "predict" refers to the future – NOT the present. Appellant's use of the term "predict" in "predicting temperature" is also consistent with the meaning of the term, since Claims 17 and 18 require both actual temperature level sampling (i.e., actual temperature measurement) and predicting temperature levels. Applicant's technique clearly provides more accurate predictions than possible with Chen since the base point for the

prediction starts with an actual temperature measurement – not from an estimation. As a result, Appellant's invention is more advanced in that it can take into consideration the effect of the ambient temperature of the computer or apparatus, be it cold or hot. For instance, if the computer is being used in a cold environment, the CPU will be colder than at room temperature, which means that more heat can be generated by the CPU before it overheats. Contrariwise, a hot environment may shorten the time period. But in both cases, having both actual temperature measurement and thereafter prediction of future temperature is a significant advantage over the cited art.

In contrast, the only place where Chen uses the term "predict" is in its Background of the Invention, in reference to the prior art (Col. 1, lines 34-37). Thereafter, in the Summary of the Invention, Best Mode for Carrying Out the Invention, and in the Claims, Chen uses the term "estimate" – NOT "predict" or "prediction" since the invention in Chen estimates what the present or current temperature is – NOT what any future temperature might be. More particularly, Chen specifically states, "determining a piecewise **estimate of CPU temperature change** as a function of time over an **accumulated operating history** of the CPU" (col. 7, lines 8-10)". Thus, Chen makes a piecewise ESTIMATE of CPU temperature CHANGE to the

present – NOT into the future. It does not teach or suggest, "**means for predicting temperature levels associated with the operation of said central processing unit within said computer**" and "**means for using said prediction for automatic control of temperature within said computer, said temperature control remaining transparent to a user of said computer**", as required by Claim 17, or "**means for predicting temperature levels associated with the operation of said computer**" and "**means for using said prediction for automatic temperature control within said computer, said temperature control remaining transparent to a user of said computer**", as required by Claim 18.

9) **THERE IS NO BASIS FOR THE SOLICITOR'S ARGUMENT THAT WATTS DID NOT PROVIDE A CLEAR STATEMENT FOR EACH REJECTION INDICATING WHETHER THE CLAIMS SUBJECT TO THAT REJECTION STAND OR FALL TOGETHER – IN ANY EVENT THE ARGUMENT IS A NEW ISSUE ON APPEAL THAT SHOULD BE DISREGARDED BY THIS COURT.**

There is no basis for the Solicitor's argument that Watts, "(1) failed to provided a clear statement that claim 21 did not stand or fall with claim 17" (Appellee's Brief, page 33, lines 11-12). Indeed, the Solicitor's argument is a new ground of rejection not considered by the Board or Examiner.

In a direct appeal, the Federal Circuit reviews the PTO Board decision "on the record before the Patent and Trademark Office." 35 U.S.C. 144; In re Varga, 511 F.2d 1175; 1178, 185 USPQ 47 (CCPA 1975). The court will not consider evidence submitted in counsel's briefs. In re Margolis, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); Titanium Metals Corp. v. Banner, 778 F.2d 775, 779-80, 227 USPQ 773, 777 (Fed. Cir. 1985) (Solicitor's new theory for interpreting a reference so as to support an anticipation rejection "was clearly beyond his province and we disregard it as amounting to a new ground of rejection"); In re Zahn, 617 F.2d 261, 269, 204 USPQ 988, 966 (CCPA 1980)("we are a court of review and do not pass on issues not raised").

10) THE SOLICITOR HAS NO AUTHORITY TO RAISE RULE 37 CFR § 1.192 ISSUES ON APPEAL NOT RAISED BY THE BOARD OR EXAMINER.

The Solicitor has no authority to raise issues not addressed on appeal. More particularly, the issues and arguments raised by the Solicitor (Appellee's Brief, page 32, line 1 – page 37, line 11) address issues not raised on appeal. As such, the Solicitor's arguments qualify as new grounds of rejection not considered by the Board or Examiner.

In a direct appeal, the Federal Circuit reviews the PTO Board decision "on the record before the Patent and Trademark Office." 35 U.S.C. 144; In re Varga, 511 F.2d 1175; 1178, 185 USPQ 47 (CCPA 1975). The court will not consider evidence submitted in counsel's briefs. In re Margolis, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); Titanium Metals Corp. v. Banner, 778 F.2d 775, 779-80, 227 USPQ 773, 777 (Fed. Cir. 1985) (Solicitor's new theory for interpreting a reference so as to support an anticipation rejection "was clearly beyond his province and we disregard it as amounting to a new ground of rejection"); In re Zahn, 617 F.2d 261, 269, 204 USPQ 988, 966 (CCPA 1980)("we are a court of review and do not pass on issues not raised").

11) **THERE IS NO BASIS WHATSOEVER FOR THE SOLICITOR'S ARGUMENT THAT "GROUPS OF CLAIMS LINKED TOGETHER BY A HYPHEN SHOULD BE UNDERSTOOD TO STAND OR FALL SEPARATELY FROM EACH OF THE OTHER GROUPS OF CLAIMS" – IN ANY EVENT THE ARGUMENT IS A NEW ISSUE ON APPEAL THAT SHOULD BE DISREGARDED BY THIS COURT.**

In his Brief on Appeal, Appellant stated the following under the "Grouping of Claims" section:

> Claims 2, 3, 5, 6, 9, 17-21, 23, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 stand or fall separately (A217, lines 18-19).

The above statement clearly states that all of the above claims "stand or fall separately". Such was Appellant's intent, and such was the interpretation of the above by the Board and Examiner. Now comes the Solicitor making the following new argument:

> The most logical interpretation of this statement is that **any individual claim or group of claims linked by a hyphen should be understood to stand or fall separately from each of the other claims or groups of claims.** If the hyphen were intended merely to link successive claim numbers (and not to designate groups), then hyphens would have appeared between claims 2 and 3, 5 and 6, and 30 and 31. Under any other interpretation, Watts has used hyphens inconsistently. Accordingly, Watts himself grouped claim 21 with claim 17. Based on this grouping, the Board was not required to consider claim 21 separately from claim 17. (Appellee's Brief, page 36, lines 1-9).

Appellant respectfully responds that the above argument is complete nonsense. Did the Solicitor ever consider the possibility that there is no hyphen between claims 2 and 3, or 5 and 6, or 30 and 31 in the "Grouping of Claims" section "because there are NO CLAIMS between claims 2 and 3, respectively, or 5 and 6, respectively, or 30 and 31, respectively. Besides, what does it matter? Both the Board and Examiner understood Appellant to

be appealing all of the claims individually. The Solicitor appears to be the only person not sharing the common understanding.

Moreover, the Solicitor has no authority to raise issues not addressed on appeal. More particularly, the issues and arguments raised by the Solicitor (Appellee's Brief, page 32, line 1 – page 37, line 11) address issues not raised on appeal. As such, the Solicitor's arguments qualify as new grounds of rejection not considered by the Board or Examiner.

In a direct appeal, the Federal Circuit reviews the PTO Board decision "on the record before the Patent and Trademark Office." 35 U.S.C. 144; In re Varga, 511 F.2d 1175; 1178, 185 USPQ 47 (CCPA 1975). The court will not consider evidence submitted in counsel's briefs. In re Margolis, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); Titanium Metals Corp. v. Banner, 778 F.2d 775, 779-80, 227 USPQ 773, 777 (Fed. Cir. 1985) (Solicitor's new theory for interpreting a reference so as to support an anticipation rejection "was clearly beyond his province and we disregard it as amounting to a new ground of rejection"); In re Zahn, 617 F.2d 261, 269, 204 USPQ 988, 966 (CCPA 1980)("we are a court of review and do not pass on issues not raised").

12) **THE SOLICITOR IS IN ERROR WHEN HE STATES THAT, IF THE BOARD ERRED IN FAILING TO CONSIDER MORE CLOSELY WATTS' ARGUMENTS AS TO CLAIM 21, THE COURT SHOULD REMAND TO THE BOARD SO THAT THEY WILL "MORE CLOSELY CONSIDER WATTS' ARGUMENTS.**

How many bites at the apple should the PTO get? The reality is that Appellant did submit adequate arguments in support of the allowability of Claim 21 (Board Brief, page 19, line 15 – page 20, line 5), and the Board DID consider said arguments. Appellant cannot control the fact that the Board apparently did not deem the arguments to be persuasive and affirmed the rejection of Claim 21over a combination of Kikinis, Hollowell and Chen. Appellant believes, however, that he has clearly shown (Brief for Appellant, page 54, line 15 – page 58, line 8) that no prima facie case of obviousness was ever established by the PTO covering Claim 21 and that there is no way the invention of Claim 21 is obvious over the cited combination.

Appellant particularly takes offense at the Solicitor's "blame it on the victim" mentality. More specifically, the Solicitor states, "Watts has only himself to blame for the fact that the Board did not consider the argument as to claim 21" (Appellee's Brief, page 37, lines 10-11). With all due respect, it is the obligation of the PTO to make any rejections – not the obligation of

Appellant. If the Board cannot make a 103 rejection that withstands scrutiny, it is the fault of the PTO – NOT Appellant.

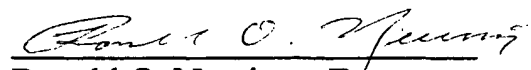
Appellant further objects to the Solicitor's proposed new ground of rejection for Claim 21. As stated previously, the Solicitor is without authority to raise new issues on appeal. In a direct appeal, the Federal Circuit reviews the PTO Board decision "on the record before the Patent and Trademark Office." 35 U.S.C. 144; In re Varga, 511 F.2d 1175; 1178, 185 USPQ 47 (CCPA 1975). The court will not consider evidence submitted in counsel's briefs. In re Margolis, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); Titanium Metals Corp. v. Banner, 778 F.2d 775, 779-80, 227 USPQ 773, 777 (Fed. Cir. 1985) (Solicitor's new theory for interpreting a reference so as to support an anticipation rejection "was clearly beyond his province and we disregard it as amounting to a new ground of rejection"); In re Zahn, 617 F.2d 261, 269, 204 USPQ 988, 966 (CCPA 1980)("we are a court of review and do not pass on issues not raised").

Accordingly, the appropriate action for this Court is to REVERSE the rejection of Claim 21 – not remand.

CONCLUSION

For the foregoing reasons, this Court should reverse the Decision of the Board holding Claims 2, 3, 5, 6, 9, 17-21, 23, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73, obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

Respectfully submitted,



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ADDENDUM

STANDARD DICTIONARY OF COMPUTERS AND INFORMATION PROCESSING

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SECOND EDITION

MARTIN H. WEIK

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To my wife and children, whose patience with me was often tried during the years of preparation, and to the many wonderful friends with whom I have worked in many vocabulary efforts.

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characteristics of another system or at instants of time that are determined by the other system; for example, data received by airborne radar to determine the aircraft's position for calculating control signals to place the aircraft on course. (Contrast with *output, real-time.*)

input, tape—**1:** Pertaining to a method of introducing data to a device through the use of tape, such as plastic or metallic magnetic tape, perforated paper tape of the chadding or chadless type, or fabric tape loops. **2:** The data link or channel over which data read from tape is fed into a machine. **3:** The tape reader, station, handler, or transport itself. **4:** The data read from tape and fed into a machine.

input area—See *area, input.*

input block—See *block, input.*

input buffer—See *buffer, input.*

input channel—See *channel, input.*

input data—See *data, input.*

input device—See *device, input.*

input equipment—See *equipment, input.*

input impedance—See *impedance, input.*

input instruction code—See *code, input instruction.*

input magazine—See *magazine, input.*

input magazine, card—Same as *hopper, card.*

input-output—The medium or device used to insert information, data, or instructions into a computing system or the medium or device used to transfer information or data, usually processed data, from a computing system to the "outside" world. Examples of input-output media or devices are paper tape, magnetic tape, punched cards, printers, plotters, illuminated panels, typewriters, cathode-ray display tubes and character-sensing devices. Thus, input-output may be the media or data-carrier handling devices, the data-carrier itself, or the data itself. Input-output permits a computer to communicate with humans or other machines. Abbreviated I-O.

input-output, logical—In a computer operating system, conceptual or virtual input-output operations that are executed by user programs and that do not involve a physical input-output data or device, but perhaps only blocking or deblocking. (Contrast with *input-output, physical.*)

input-output, physical—In a computer operating system, actual input-output operations that involve physical input-output data and devices and that involves the movement of data between main storage and peripheral devices. (Contrast with *input-output, logical.*)

input-output, real-time—The data involved in an operating situation in which a machine accepts the data as it is generated by a sensor, processes or operates on the data, and furnishes the results so as to affect the operations of the data generator or some other device; for example, the data received from an industrial process under the control of a computer or the data received from a missile under the guidance control of a computer.

input-output, simultaneous—Pertaining to the capability of a computer to handle other operations concurrently with input and output operations, usually through the use of a buffer that holds input-output data as it arrives temporarily while other operations are executed, whereupon the contents of the buffer are transferred to and from the computer storage en masse rapidly during a short halt in the other operations. This avoids the necessity of having the computer wait for data arrival or slow down for output rates, say on card punching.

input-output area—See *area, input-output.*

input-output channel—See *channel, input-output.*

input-output controller—See *controller, input-output.*

input-output exchange—See *exchange, input-output.*

input-output medium—See *medium, input-output.*

input-output register—See *register, input-output.*

input-output storage—Same as *area, input-output.*

input process—See *process, input.*

input program—See *program, input.*

input pulse, partial select—Same as *pulse, partial write.*

input reader—Same as *routine, input.*

input register—See *register, input.*

input routine—See *routine, input.*

input station, data—See *station, data input.*

input storage—Same as *area, input.*

input stream—See *stream, input.*

input unit—Same as *input (3).*

inquiry—In the field of information storage and retrieval, a request for information from storage, or from an information network or system; for example, a request for a document from a library, a request for specific information from a stored collection of data, a machine statement to initiate a search of data in storage, or a request for the number of available airline seats on a specific flight. The request may be in the form of a question or an order. It may be inserted into the data-processing system or network by any means, such as keyboard, pushbutton, punched card reader or telephone.

inquiry application—See *application, inquiry.*

inquiry station—See *station, inquiry.*

insertion, switch—The process by which information is inserted into a data-processing system by an operator who manually operates switches. (Compare with *switch, insertion.*)

insertion gain—See *gain, insertion.*

insertion loss—See *loss, insertion.*

insertion sort—See *sort, insertion.*

insertion switch—See *switch, insertion.*

installation, computer—**1:** A computing facility or computation center, usually

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Dennis Longley
and
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liquified material under pressure. The casings for many electronic devices are made using this technique.

ink duct Synonymous with ink fountain.

ink duplicating In duplication, a simple lithographic printing press for print runs of up to 1000 copies. See lithography. Synonymous with mimeography.

inker In film animation, an artist who draws in outline details on an animation cel using acetate ink. Compare opaquer.

ink fountain In printing, the reservoir of ink from which the supply of ink is regulated on a machine. See fountain. Synonymous with ink duct.

inking (1) In computer graphics, creating a line by moving the pointer as in a line drawing on paper. (2) In film animation, drawing lines for artwork. (3) In duplication, the process by which ink is transferred from the master to copy paper.

inking roller In printing, that part of the press used to transfer ink to the print surface.

ink jet printer In computing, a nonimpact printer that forms characters by the projection of high speed ink jets onto paper.

inlay In television, a method of combining video signals from two sources into the one picture.

in line In computing, a method of processing data without their previously having been edited or sorted.

in line recovery In computing, a recovery in which the affected process is resumed from a safe point preceding the occurrence of the error. See recoverable error.

INMARSAT In communications, INternational MARitime SATellite organization, an international organization using satellite communications and providing maritime telephone, telex, facsimile, telegram, data communication, distress and safety services.

in phase (1) In cinematography, the precise coordination of the film movement through a gate with the rotation of the camera shutter. (2) In electronics and communications, pertaining to signals that have a zero phase shift relative to each other, e.g. two sinusoidal waves of the same frequency whose maximum and minimum values coincide. Compare out of phase. See gate, phase, shutter.

in pro In printing, an abbreviation of 'in proportion', used when giving instructions for reducing or enlarging an original image.

input (1) In computing, a signal transmitted from a peripheral device to the central processing unit. (2) In electronics, a signal transmitted into a circuit or unit, usually to achieve some desired output or else to induce a change in the state of the circuit. Compare output. See central processing unit.

input area In computing, an area of storage reserved for holding input data on a temporary basis prior to further processing.

input data validation In computing, a control technique used to detect inaccurate or incomplete input data. This may include format checks, completeness checks, reasonableness checks and limit checks. See format, limit check, reasonableness check.

input device Synonymous with input unit.

input field In computer graphics, an unprotected field on the display surface of a VDU in which data can be entered, modified or erased. Compare protected field. See VDU.

input output In computing, a general term for the equipment used to communicate with a computer and the data involved in the communication. Synonymous with I/O.

input output channel In data processing, a device which is controlled by the central processing unit and handles the transfer of data between main storage and the

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pred·i·ca·tion (prĕd'ĭ-kā'shən) *n.* **1.** The act or procedure of predicating, esp. a logical assertion or affirmation. **2.** Something predicated. **—pred'i·ca'tion·al** *adj.*

pred·i·ca·to·ry (prĕd'ĭ-kə-tôr'ē, -tōr'ē) *adj.* [LLat. *praedicatorius* < Lat. *praedicare*, to proclaim. —see PREACH.] Of, relating to, or typical of preaching or a preacher.

pre·dict (prĭ-dĭkt') *v.* **-dict·ed, -dict·ing, -dicts.** [Lat. *praedicere, praedict-* : *prae-*, before + *dicere*, to say.] —*vt.* To state, tell about, or make known beforehand, esp. on the basis of special knowledge. —*vi.* To foretell what will happen : PROPHESY. **—pre·dict'a·bil'i·ty** *n.* **—pre·dict'a·ble** *adj.* **—pre·dict'a·bly** *adv.* **—pre·dic'tor** *n.*

☆ ***syns:*** PREDICT, FORECAST, FORETELL, FORTEND, PROGNOSTICATE *v. core meaning*: to tell about or make known (future events) in advance, esp. by means of special knowledge or inference <*predicted* the rise in gasoline prices>

pre·dic·tion (prĭ-dĭk'shən) *n.* **1.** An act of predicting. **2.** Something predicted : PROPHECY. **—pre·dic'tive** *adj.* **—pre·dic'tive·ly** *adv.* **—pre·dic'tive·ness** *n.*

pre·di·gest (prē'dī-jĕst', -dĭ-jĕst') *vt.* **-gest·ed, -gest·ing, -gests.** To subject to partial digestion. **—pre'di·ges'tion** *n.*

pred·i·lec·tion (prĕd'ĭ-lĕk'shən, prēd'-) *n.* [Fr. *prédilection* < Med. Lat. *praediligere*, to prefer : Lat. *prae-*, before + Lat. *diligere*, to love. —see DILIGENT.] Partiality or disposition in favor of something.

pre·dis·pose (prē'dĭ-spōz') *vt.* **-posed, -pos·ing, -pos·es. 1.** To make (someone) inclined to favor something in advance <was *predisposed* to like the new house> **2.** To make susceptible or liable <conditions that *predispose* migrant farm workers to health problems> **3.** *Archaic.* To settle in advance. **—pre'dis·po·si'tion** (prē'dĭs-pə-zĭsh'ən) *n.*

pred·ni·sone (prĕd'nĭ-sōn', -zōn') *n.* [E. *pregnane*, a hydrocarbon + D(I)- + -(E)N(E) + (CORT)ISONE.] An analog of cortisone, $C_{21}H_{26}O_5$, used as an anti-inflammatory agent for treating arthritis.

pre·doc·tor·al (prē-dŏk'tər-əl) *adj.* Of, relating to, or engaged in advanced academic study for a doctorate.

pre·dom·i·nant (prĭ-dŏm'ə-nənt) *adj.* [OFr. < Med. Lat. *praedominans*, pr.part. of *praedominari*, to predominate.] **1.** Having greatest ascendancy, importance, influence, authority, or force : PREPONDERANT. **2.** Most common or conspicuous : PREVALENT <the *predominant* geometric pattern in a design> **—pre·dom'i·nance** (-nəns), **pre·dom'i·nan·cy** (-nən-sē) *n.* **—pre·dom'i·nant·ly** *adv.*

pre·dom·i·nate (prĭ-dŏm'ə-nāt') *v.* **-nat·ed, -nat·ing, -nates.** [Med. Lat. *praedominari, praedominat-* : Lat. *prae-*, before + Lat. *dominari*, to rule < *dominus*, master.] —*vi.* **1.** To be of greater power, importance, or quantity : PREPONDERATE. **2.** To have authority, power, or controlling influence. —*vt.* To prevail over. **—pre·dom'i·nate·ly** (-nĭt-lē) *adv.* **—pre·dom'i·nat'ing·ly** *adv.* **—pre·dom'i·na'tion** *n.* **—pre·dom'i·na'tor** *n.*

pree·mie *also* **pre·mie** (prē'mē) *n.* [Shortening and alteration of PREMATURE.] *Informal.* An infant born prematurely.

pre·em·i·nent *or* **pre·em·i·nent** (prē-ĕm'ə-nənt) *adj.* [LLat. *praeeminens*, pr.part of Lat. *praeeminēre*, to excel : *prae-*, before + *eminēre*, to stand out.] Superior to or notable above all others : OUTSTANDING. **—pre·em'i·nence** *n.* **—pre·em'i·nent·ly** *adv.*

pre·em·ploy·ment (prē'ĕm-ploi'mənt) *adj.* Of or occurring at a time before employment <*preemployment* examinations>

pre·empt *or* **pre·empt** (prē-ĕmpt') *v.* **-empt·ed, -empt·ing, -empts.** [Back-formation < PRE-EMPTION.] —*vt.* **1.** To acquire ownership of by prior right or opportunity, esp. to settle on (public land) so as to gain the right to buy before others. **2.** To appropriate, seize, or act for oneself before others. **3.** To be presented in place of : DISPLACE <Olympic games coverage *pre-empted* regular network programs.> **4.** To take precedence over <The problem of declining sales *pre-empted* discussion of other matters.> **5.** To gain a pre-eminent place in <a candidate who *pre-empted* all others in the race> —*vi.* To make a pre-emptive bid in bridge. **—pre-emp'tor'** (-ĕmp'-tôr') *n.* **—pre·emp'to·ry** (-ĕmp'tə-rē) *adj.*

pre·emp·tion *or* **pre·emp·tion** (prē-ĕmp'shən) *n.* [< Med. Lat. *praeemere*, to buy before : Lat. *prae-*, before + Lat. *emere*, to buy.] **1. a.** The right to purchase something, esp. government-owned land, before others. **b.** A purchase made when such a right is granted. **2.** Acquisition or appropriation of something beforehand.

pre·emp·tive *or* **pre·emp·tive** (prē-ĕmp'tĭv) *adj.* **1.** Of, relating to, or typical of pre-emption. **2.** Having or granted by the right of pre-emption. **3.** Designating or typical of a bid in bridge that is unnecessarily high and is meant to keep the opposing players from bidding. **4.** Composing or pertaining to a military strike made so as to secure an advantage in the face of an impending enemy strike <*preemptive* bombing> **—pre·emp'tive·ly** *adv.*

preen (prēn) *v.* **preened, preen·ing, preens.** [ME *preinen*, poss. var. of *prouynen*, to prune. —see PRUNE².] —*vt.* **1.** To smooth or clean (feathers) with the bill. —Used of birds. **2.** To groom (oneself) with elaborate care or vanity : PRIMP. **3.** To take pride or satisfaction in (oneself) : GLOAT. —*vi.* To dress up : PRIMP. **—preen'er** *n.*

pre·en·gi·neered (prē'ĕn-jə-nĭrd') *adj.* Prefabricated.

pre·es·tab·lish *or* **pre·es·tab·lish** (prē'ĭ-stăb'lĭsh) *vt.* **-lished, -lish·ing, -lish·es.** To establish beforehand.

pre·ex·il·i·an (prē'ĕg-zĭl'ē-ən, -zĭl'yən, -ĕk-sĭl'ē-ən, -sĭl'yən) *also* **pre·ex·il·ic** (-ĕg-zĭl'ĭk, -ĕk-sĭl'ĭk) *adj.* Relating to the history of the Jewish people before their exile in Babylonia at the end of the 6th cent. B.C.

pre·ex·ist *or* **pre·ex·ist** (prē'ĭg-zĭst') *v.* **-ist·ed, -ist·ing, -ists.** —*vi.* To exist before. —*vt.* To exist before (something) <dinosaurs that *pre-existed* mammals> **—pre'-ex·is'tence** *n.* **—pre'-ex·is'tent** *adj.*

pre·fab (prē'făb') *n.* A prefabricated structure or part.

pre·fab·ri·cate (prē-făb'rĭ-kāt') *vt.* **-cat·ed, -cat·ing, -cates. 1.** To construct or manufacture beforehand. **2.** To construct in standard, easily shipped and assembled sections. **—pre·fab'ri·ca'tion** *n.* **—pre·fab'ri·ca'tor** *n.*

pref·ace (prĕf'ĭs) *n.* [ME < OFr. < Med. Lat. *prefatia* < Lat. *praefatio*, something said before < *praefari*, to say before : *prae-*, before + *fari*, to say.] **1. a.** An introductory statement or essay, usu. by the author, explaining the scope, intention, or background of a book : FOREWORD. **b.** The introductory part of a speech. **2.** An introductory approach : PRELIMINARY. **3.** *often* **Preface.** *Rom. Cath. Ch.* A thanksgiving prayer ending with the Sanctus and introducing the canon of the Mass. —*vt.* **-aced, -ac·ing, -ac·es. 1.** To introduce by or supply with an introductory essay or statement. **2.** To serve as an introduction to. **—pref'ac·er** *n.*

pref·a·to·ry (prĕf'ə-tôr'ē, -tōr'ē) *also* **pref·a·to·ri·al** (prĕf'ə-tôr'ē-əl, -tōr'-) *adj.* [< Lat. *praefatio*, preface.] Being or functioning as an introductory statement or essay. **—pref'a·to'ri·ly** *adv.*

pre·fect *also* **prae·fect** (prē'fĕkt') *n.* [ME < OFr. < Lat. *praefectus* < p.part. of *praeficere*, to place at the head of : *prae-*, before + *facere*, to make.] **1.** A high civil or military official, as a magistrate or administrator of ancient Rome. **2.** A high administrative police official in some European countries. **3.** The dean in a Jesuit school. **4.** A student officer, esp. in a private school. **—pre·fec'tur·al** (prĭ-fĕk'chər-əl) *adj.* **—pre'fec'ture** (prē'fĕk'chər) *n.*

prefect apostolic *n., pl.* **prefects apostolic.** *Rom. Cath. Ch.* A priest with broad jurisdiction in a missionary territory.

pre·fer (prĭ-fûr') *vt.* **-ferred, -fer·ring, -fers.** [ME *preferren* < OFr. *preferer* < Lat. *praeferre* : *prae-*, before + *ferre*, to bear.] **1.** To choose as more desirable : like better <*prefers* sailing to fishing> **2.** *Law.* To give priority or precedence to (a creditor). **3.** *Law.* To file, prosecute, or offer for consideration or resolution, as before a magistrate or court <*prefer* charges> **4.** *Archaic.* To recommend for advancement or appointment.

pref·er·a·ble (prĕf'ər-ə-bəl, prĕf'rə-) *adj.* More desirable or worthy : PREFERRED <the *preferable* alternative> **—pref'er·a·bil'i·ty, pref'er·a·ble·ness** *n.* **—pref'er·a·bly** *adv.*

pref·er·ence (prĕf'ər-əns, prĕf'rəns) *n.* [Fr. *préférence* < Med. Lat. *praeferentia* < Lat. *praeferre*, to prefer.] **1. a.** An act of preferring or the state of being preferred. **b.** Exercise of choice. **c.** One preferred. **2.** *Law.* **a.** The paying of one or more creditors by an insolvent debtor before or to the exclusion of other creditors. **b.** The right to be so paid. **3.** The granting of precedence or advantage to one over others.

pref·er·en·tial (prĕf'ə-rĕn'shəl) *adj.* **1.** Of, having, providing, or securing advantage or preference <*preferential* consideration> **2.** Demonstrating or originating from partiality or preference <*preferential* import duties> **—pref'er·en'tial·ism** *n.* **—pref'er·en'tial·ist** *n.* **—pref'er·en'tial·ly** *adv.*

preferential shop *n.* A union shop whose management gives precedence to union members in hiring, promoting, or laying off.

preferential voting *n.* A system of voting in which the voter ranks his or her choices according to preference.

pre·fer·ment (prĭ-fûr'mənt) *n.* **1.** The act of advancing to a higher position or office : PROMOTION. **2.** A position, appointment, or rank giving advancement.

preferred stock *n.* The stock of a corporation with priority or preference over the common stock in the distribution of dividends and assets.

pre·fig·u·ra·tion (prē-fĭg'yə-rā'shən) *n.* **1.** The act of representing, suggesting, or imagining in advance : FORESHADOWING. **2.** Something that prefigures. **—pre·fig'ur·a·tive** (-fĭg'yər-ə-tĭv) *adj.* **—pre·fig'ur·a·tive·ly** *adv.* **—pre·fig'ur·a·tive·ness** *n.*

pre·fig·ure (prē-fĭg'yər) *vt.* **-ured, -ur·ing, -ures.** [ME *prefiguren* < LLat. *praefigurare* : Lat. *prae-*, before + Lat. *figurare*, to shape < *figura*, shape.] **1.** To suggest, indicate, or represent by an antecedent form or model : PRESAGE <The work of Defoe *prefigured* the development of the novel.> **2.** To imagine or picture to oneself in advance. **—pre·fig'ure·ment** *n.*

pre·fix (prē-fĭks', prē'fĭks') *vt.* **-fixed, -fix·ing, -fix·es.** [OFr. *prefixer* : *pre-*, before (< Lat. *prae-*) + *fixer*, to place < *fixe*, fastened < Lat. *fixus*, p.part. of *figere*, to fasten.] **1.** To put or fix before. **2.** (prē-fĭks'). To settle or arrange in advance. —*n.* (prē'fĭks'). **1.** An affix, such as *mis-* in *mistrust*, put before a word to produce a derivative word or an inflected form. **2.** A title placed before one's name. **—pre'fix'al** *adj.* **—pre'fix'al·ly** *adv.*

pre·flight (prē'flīt') *adj.* Preparing for or occurring before flight <*preflight* instrument check-outs>

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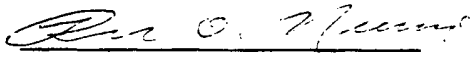

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